

COURSE CRITIQUE

Please rate 1-10 (poor to excellent respectively) by placing a check on the scale given. Comment below question where indicated. Use back of pages if needed.

FORMRATING

1. Format of the course was intended to accommodate to a rough 5% time commitment and to provide for a full-day class treatment of a particular topical area. Please rate:

1 day/month	1	<u>10</u>	1
4 hours/every 2 weeks	1	<u>2</u>	1

Other Alternatives: This depends on location. Less travel time is associated with one day sessions. When travel is  miles one way this is a significant factor. STAT

2. The point of the applications session was to illustrate where current course material was utilized in the real world. Please rate effectiveness:

Material relevance	1	<u>8</u>	1
Applications speakers	1	<u>8</u>	1

3. The purpose of the homework was to exercise topical material with about 8 hours of work. Please rate these:

3 one-hour problems	1	<u>5</u>	1
20 ten-minute problems	1	<u>5</u>	1

4. The goal of the intermediate 2-hour session was to give a "keep-alive" exercise in the topical area. Please rate these alternatives for continuity:

Problem-solving session	1	<u>5</u>	1
Second applications session	1	<u>5</u>	1

STAT Like this idea, but it involves excessive travel in some cases. In my case my duty station is  from Hqrs. This involves  round trip. This is not a determining factor in attending sessions, however it must be taken in consideration especially in winter. STAT

5. The class was intended to be weighted towards a blackboard-pictorial development in order to convey modelling concepts more readily. Please rate:

Diagrammatic presentation	1	<u>8</u>	10
Mix of vuegraphs & chalkboard	1	<u>8</u>	10

6. The symbology of various systems disciplines is confusing due to the separate source developments. An effort at consistency was made in order to permit cross interpretation within the technical literature. Please rate effectiveness:

Common symbology	1	<u>7</u>	10
Example illustrations	1	<u>5</u>	10

7. The intent of notes and handout material furnished throughout the month was to tie course topics to technical literature. Please rate:

Effectiveness of handout reprints	1	<u>9</u>	10
Effectiveness of specially developed handouts	1	<u>8</u>	10

8. General impedimenta such as same room same day/month, same format, etc., for providing continuity. Please rate:

Room	1	<u>7</u>	10
Day	1	<u>10</u>	10
Daily sequence	1	<u>9</u>	10

9. The course was designed to present a semi-unitary approach to several disciplines: Please rate applicable areas 1-10:

Communications	<u>10</u>	Optics	<u>9</u>	Acoustics	<u>10</u>
Hum. Eng. & Biomed.	<u>2</u>	Seismics	<u>1</u>	Pictorial	<u>5</u>
Computer Technology	<u>6</u>				

SUBSTANCERATING

10. The course material was split 50% basic math tools and 50% in commonality subsystems. (Those subsystems which are pervasive in designs across disciplines.) The sequence was that recommended by ASEE for math modelling related to several fields. Please rate:

Balance of material	1	<u>8</u>	10
Total content	1	<u>8</u>	10

The sequence is given below for each session. Please give your rating for both material content and for the applications given both formally and in the course of concept development.

11. Session I; Vectorial Representation; matrices, num. analysis, linear systems, sampling, manipulation

Material	1	<u>NOT</u>	10
Application	1	<u>ATTENDED</u>	10

12. Session II; Transforms; convolution, Fourier and Laplace transformations, Z transforms, impulse response, numerical analysis.

Material	1	<u>7</u>	10
Application	1	<u>10</u>	10

13. Session III; Probability and Statistics; random var., expectancy, density functions, distributions, confidence limits

Material	1	<u>8</u>	10
Application	1	<u>9</u>	10

14. Session IV; Stochastic Variable; stationarity, ergodicity, moments, correlation, power spectral density, white noise, square law detection.

Material	1	<u>8</u>	10
Application	1	<u>10</u>	10

15. Session V; Signal Detection; value, cost likelihood ratio detection, Bayes Law.

Material	1	<u>9</u>	10
Application	1	<u>10</u>	10

16. Session VI; Detector Subsystems I; receiver operating characteristics, detection situations, S/N ratio, data smoothing and prediction.

Material	1	<u>8</u>	10
Application	1	<u>10</u>	10

17. Session VII; Detector Subsystems II; non-white noise, whitening, matched filtering, threshold, detectability Markov chains.

Material	1	<u>7</u>	10
Application	1	<u>7</u>	10

18. Session VIII; Spatial Processing I; space-time relationships, spatial filtering, correlation matrix for signal and noise.

Material	1	<u>8</u>	10
Application	1	<u>9</u>	10

19. Session IX Spatial Processing II; optimum array, shading, optimum filtering, lobe periodicity.

This session not attended.  
Rating is from study of the  
handouts only.

Material	1	<u>9</u>	10
Application	1	<u>6</u>	10

20. Session X; Servomechanisms and Control; closed loop systems, regulation, feedback, root locus, stability criteria, bang-bang systems.

Material	1	<u>9</u>	10
Application	1	<u>9</u>	10

21. Session XI; Modulation; analog modulation, AM, FM, PM, suppressed band modulation, effects of index of modulation noise immunity.

Material	1	<u>8</u>	10
Application	1	<u>10</u>	10

22. Session XII; Modulation; PPM, PWM, PCM, error correction codes, noise immunity, entropy. (Content Only)

Material	1	<u>9</u>	10
Application	1	<u>9</u>	10

Please rate 1-10 (poor to excellent respectively) by placing a check on the scale given. Comment below question where indicated. Use back of pages if needed.

## RATING

1 day/month  
4 hours/every 2 weeks

A 2x2 matrix diagram with a vertical line separating the columns. The top-left and bottom-right cells contain a checkmark (✓). The top-right and bottom-left cells are empty.

Material relevance  
Applications speakers

1		1
1		1

3 one-hour problems  
20 ten-minute problems

Problem-solving session	1
Second applications session	1

1 1

5. The class was intended to be weighted towards a blackboard-pictorial development in order to convey modelling concepts more readily. Please rate:

Diagrammatic presentation	1	<u>✓</u>	10
Mix of vuegraphs & chalkboard	1	<u>✓</u>	10

6. The symbology of various systems disciplines is confusing due to the separate source developments. An effort at consistency was made in order to permit cross interpretation within the technical literature. Please rate effectiveness:

Common symbology	1	<u>✓</u>	10
Example illustrations	1	<u>✓</u>	10

7. The intent of notes and handout material furnished throughout the month was to tie course topics to technical literature. Please rate:

Effectiveness of handout reprints	1	<u>✓</u>	10
Effectiveness of specially developed handouts	1	<u>✓</u>	10

8. General impedimenta such as same room same day/month, same format, etc., for providing continuity. Please rate:

Room	1	<u>✓</u>	10
Day	1	<u>✓</u>	10
Daily sequence	1	<u>✓</u>	10

9. The course was designed to present a semi-unitary approach to several disciplines: Please rate applicable areas 1-10:

Communications	<u>10</u>	Optics	<u>1</u>	Acoustics	<u>1</u>
Hum. Eng. & Biomed.	<u>3</u>	Seismics	<u>1</u>	Pictorial	<u>1</u>
Computer Technology	<u>3</u>				

SUBSTANCE

RATING

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Balance of material  
Total content

1		✓	10
1		✓	10

The sequence is given below for each session. Please give your rating for both material content and for the applications given both formally and in the course of concept development.

11. Session I; Vectorial Representation; matrices, num. analysis, linear systems, sampling, manipulation

Material  
Application

1		✓	10
1		✓	10

12. Session II; Transforms; convolution, Fourier and Laplace transformations, Z transforms, impulse response, numerical analysis.

Material  
Application

1		✓	10
1		✓	10

13. Session III; Probability and Statistics; random var., expectancy, density functions, distributions, confidence limits

Material  
Application

1		✓	10
1		✓	10

14. Session IV; Stochastic Variable; stationarity, ergodicity, moments, correlation, power spectral density, white noise, square law detection.

Material  
Application

1		✓	10
1		✓	10



15. Session V; Signal Detection; value, cost likelihood ratio detection, Bayes Law.

Material  
Application

1		✓	10
1		✓	10

16. Session VI; Detector Subsystems I; receiver operating characteristics, detection situations, S/N ratio, data smoothing and prediction.

Material  
Application

1		✓	10
1		✓	10

17. Session VII; Detector Subsystems II; non-white noise, whitening, matched filtering, threshold, detectability Markov chains.

Material  
Application

1		✓	10
1		✓	10

18. Session VIII; Spatial Processing I; space-time relationships, spatial filtering, correlation matrix for signal and noise.

Material  
Application

1		✓	10
1		✓	10

19. Session IX Spatial Processing II; optimum array, shading, optimum filtering, lobe periodicity.

Material  
Application

1		✓	10
1		✓	10

20. Session X; Servomechanisms and Control; closed loop systems, regulation, feedback, root locus, stability criteria, bang-bang systems.

Material	1	<input checked="" type="checkbox"/>	10
Application	1	<input checked="" type="checkbox"/>	10

21. Session XI; Modulation; analog modulation, AM, FM, PM, suppressed band modulation, effects of index of modulation noise immunity.

Material	1	<input checked="" type="checkbox"/>	10
Application	1	<input checked="" type="checkbox"/>	10

22. Session XII; Modulation; PPM, PWM, PCM, error correction codes, noise immunity, entropy. (Content Only)

Material	1	<input checked="" type="checkbox"/>	10
Application	1	<input type="checkbox"/>	10



5. The class was intended to be weighted towards a blackboard-pictorial development in order to convey modelling concepts more readily. Please rate:

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Effectiveness of specially developed handouts	1	<u>✓</u>	10

8. General impedimenta such as same room same day/month, same format, etc., for providing continuity. Please rate:

Room	1	<u>✓</u>	10
Day	1	<u>✓</u>	10
Daily sequence	1	<u>✓</u>	10



9. The course was designed to present a semi-unitary approach to several disciplines: Please rate applicable areas 1-10:

Communications	<u>8</u>	Optics	<u>7</u>	Acoustics	<u>6</u>
Hum. Eng. & Biomed.	<u>4</u>	Seismics	<u>6</u>	Pictorial	<u>4</u>
Computer Technology	<u>4</u>				

SUBSTANCERATING

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Balance of material  
Total content

1		10
1		10

The sequence is given below for each session. Please give your rating for both material content and for the applications given both formally and in the course of concept development.



11. Session I; Vectorial Representation; matrices, num. analysis, linear systems, sampling, manipulation

Material  
Application

1		10
1		10



12. Session II; Transforms; convolution, Fourier and Laplace transformations, Z transforms, impulse response, numerical analysis.

Material  
Application

1		10
1		10



13. Session III; Probability and Statistics; random var., expectancy, density functions, distributions, confidence limits

Material  
Application

1		10
1		10

14. Session IV; Stochastic Variable; stationarity, ergodicity, moments, correlation, power spectral density, white noise, square law detection.

Material  
Application

1		10
1		10

15. Session V; Signal Detection; value, cost likelihood ratio detection, Bayes Law.

Material  
Application

1		✓	10
1		✓	10

16. Session VI; Detector Subsystems I; receiver operating characteristics, detection situations, S/N ratio, data smoothing and prediction.

Material  
Application

1		✓	10
1		✓	10

17. Session VII; Detector Subsystems II; non-white noise, whitening, matched filtering, threshold, detectability Markov chains.

Material  
Application

1		✓	10
1		✓	10

18. Session VIII; Spatial Processing I; space-time relationships, spatial filtering, correlation matrix for signal and noise.

Material  
Application

1		✓	10
1		✓	10

19. Session IX Spatial Processing II; optimum array, shading, optimum filtering, lobe periodicity.

Material  
Application

1		✓	10
1		✓	10

20. Session X; Servomechanisms and Control; closed loop systems, regulation, feedback, root locus, stability criteria, bang-bang systems.

Material  
Application

1		10
1		10

NO COMMENT

21. Session XI; Modulation; analog modulation, AM, FM, PM, suppressed band modulation, effects of index of modulation noise immunity.

Material  
Application

1		10
1		10

NO COMMENT

22. Session XII; Modulation; PPM, PWM, PCM, error correction codes, noise immunity, entropy. (Content Only)

Material  
Application

1		10
1		10

NO COMMENT

Question #	Part #	Total Rating ( $\Sigma r$ )	# responses (n)	$\bar{R} (\frac{\Sigma r}{n})$	$\sigma_R (\frac{\Sigma  r - \bar{R} }{n})$
1	a	11	12	5.9	2.0
	b	77	11	7.0	1.9
2	a	96	13	7.3	1.3
	b	105	13	8.0	1.0
3	a	51	11	4.6	0.9
	b	79	12	6.6	1.4
4	a	53	10	5.3	2.1
	b	46	10	4.6	1.6
5	a	100	14	7.1	1.4
	b	87	12	7.2	1.3
6	a	86	12	7.2	1.6
	b	79	12	6.6	1.7
7	a	105	14	7.5	1.8
	b	105	14	7.5	2.0
8	a	67	13	5.1	1.7
	b	97	13	7.5	2.1
	c	89	13	6.9	2.1
9	a	107	12	8.9	0.9
	b	51	11	4.6	1.6
	c	64	12	5.3	1.4
	d	63	11	5.7	1.9
	e	53	10	5.3	2.2
	f	59	10	5.9	1.7
	g	40	9	4.4	1.4
	a	96	13	7.4	1.7
10	b	97	13	7.5	1.7
	a	73	9	8.1	1.0
11	b	65	9	7.2	1.7
	a	90	12	7.5	1.3
12	b	84	12	7.0	1.7
	a	88	12	7.3	1.8
13	b	82	12	6.8	1.7
	a	88	12	7.3	1.4
14	b	84	12	7.0	1.8
	a	101	13	7.7	0.8
15	b	86	12	7.2	1.1
	a	58	7	8.3	0.9
16	b	59	7	8.4	1.0
	a	56	7	8.0	0.4
17	b	54	7	7.7	0.9
	a	55	7	7.8	0.7
18	b	49	7	7.0	1.0
	a	72	9	8.0	0.9
19	b	63	8	7.9	1.1
	a	67	8	8.4	0.6
20	b	69	9	7.6	0.5
	a	54	7	7.7	0.9



Ques #	Part #	$\Sigma r$	$q$	$\bar{r}$	$\sigma_r$
22	a	43	5	8.6	0.5
	b	25	3	8.3	0.4
QUESTIONS 10 THROUGH 22 PART A.		$\Sigma r$	$q$	$\bar{r} \left( \frac{\Sigma \bar{r}}{q} \right)$	$\sigma_r$
		956	113	7.77	.34
QUESTIONS 10 THROUGH 22 PART B.		$\Sigma r$	$q$	$\bar{r} \left( \frac{\Sigma \bar{r}}{q} \right)$	$\sigma_r$
		854	116	7.36	.40

↑      ↑

1 201 3